

Shigeharu Ushiwata et al.  
Appln. No. 08/070,799

REMARKS

Claims 1-5 presently are pending in the application. Reconsideration and allowance of all claims are respectfully requested in view of the following remarks.

The Official Draftsman objects to the drawings filed with the application on June 3, 1993 for the reasons enumerated on the attached Form PTO-948. However, applicants point out to the Examiner that six sheets of formal drawings were submitted on July 13, 1993. The Examiner is respectfully requested to acknowledge receipt of these drawings and indicate whether they are acceptable.

Applicants have corrected the minor spelling errors pointed out by the Examiner in the specification, claims and abstract.

Also, the subject matter inserted on page 6, between lines 11 and 12, has been added to clarify the invention and is believed to be supported by the original disclosure including the drawings.

Claims 1-4 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The minor indefiniteness problems are believed to be obviated by the self-explanatory amendments to the claims.

Claims 1 and 4 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,869,142 (Sato et al.) or, in the alternative, under 35 U.S.C. §103 as obvious over Sato et al. in view of U.S. Patent No. 4,694,721 (Brickner, Jr.). For the following reasons, these rejections are respectfully traversed.

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First, while the Examiner only rejects claims 1 and 4 in the statement of the rejection, the body of the rejection also appears to refer to the subject matter of claims 2 and 3, since the Examiner maintains that Brickner, Jr. discloses using gears and belts as transmission means.

The present invention relates to a desk-top miter saw with a bevel function which is improved through the use of a belt drive transmission between the saw shaft and the motor drive shaft. This allows the unit to be more compact while simultaneously offering greater bevel tilt range of the saw. A centering detent or hole mechanism is used to correctly locate the turntable for zero-angle (non-bevel) cutting.

In the rejection of claims 1 and 4 under §102(b) or, in the alternative, under §103, the Examiner maintains that Sato et al. (hereinafter Sato) discloses a desk-top circular saw which shows a base 3, a turntable 4, a holder 7 supported by the turntable, a saw having a shaft located above the support, a motor 16 with a shaft which appears to be parallel with the saw shaft. The Examiner maintains that the motor is mounted above the saw shaft and is linked to the shaft through a transmission. The Examiner indicates that Sato does not expressly show a motor shaft parallel to the saw shaft. The Examiner also maintains that Sato shows a detent 24 in which a pin is mounted for locking the saw in several positions including a "zero-tilt angle" position.

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The Examiner further maintains that Brickner, Jr. discloses a motor pack for a circular saw wherein the motor shaft is mounted above and parallel with a saw drive shaft. The Examiner also notes that Brickner, Jr. discloses using gears and belts as transmission means.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to have connected Sato's motor shaft parallel to the saw shaft through gears or a belt so that the motor casing would not interfere with the work during angle cuts as taught by Brickner, Jr.

Sato relates to a desk-top circular saw. In the embodiment in Figs. 4-8, a fence 3 which supports a workpiece 2 is fixed to the upper surface of base 1. A turntable is rotatably fitted to the base 1, and the base 1 is held between the turntable 4 and a turntable holder 5 so that the turntable may rotate. A shaft 6 is fixed to one end of the turntable 4 so that the axis of the shaft is flush with the upper surface of the turntable. The shaft 6 supports a holder 7 rotatably. A knob 8 is engaged threadedly to the turntable 4 to lock the holder 7 against rotation. The hole in the holder 7 in which the knob 8 is engaged is an arcuate slot 24 with the shaft 6 at the center thereof. A motor 16 is provided on the gear casing 13 to drive a circular saw blade via a power transmission. A handle 18 is used to push the gear casing 13 downward.

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Further, as noted by the Examiner, the motor is connected to the saw blade 17 via a power transmission.

The Examiner further relies on Brickner, Jr. to show a motor shaft positioned above the axis of the circular saw and parallel thereto. Brickner, Jr. does not appear to disclose that the circular saw assembly is tilttable in a transverse direction with respect to a vertical axis extending from the base.

Applicants' claim 1 has been amended to recite that the axis of the motor shaft is shifted from the axis of the saw shaft by distance which substantially corresponds to or is greater than the radius of the circular saw blade. Thus, as shown in Fig. 1 of the present invention, the motor shaft axis is spaced apart from the axis of the saw shaft by a distance which substantially corresponds to the radius of the circular saw, whereas in Fig. 4 the motor shaft axis is positioned at a distance which is greater than the radius of the saw blade 10.

In the present invention, the motor shaft is not simply positioned above the saw shaft, but, when the saw assembly is swung up and down, the motor shaft is spaced apart from the saw shaft by a distance corresponding to the radius of the saw or greater so that the motor shaft is located at a position where the housing is not in contact with the top surface of the base. This feature of the invention is not taught or suggested by Sato et al. and Brickner, Jr., whether taken alone or together.

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With respect to independent claim 4, the claim has been amended in order to clarify that the hole is shaped and located so that the assembly is set only at a zero-tilt angle when the pin is inserted into the hole, in order to more clearly differentiate over the knob 8 and arcuate slot 24 of Sato.

A new dependent claim 5 has been added which depends from claim 4 and further specifies that the stopper pin includes a tapered tip portion and a correspondingly shaped hole, so that the stopper pin is operative for insertion into the hole without play.

Moreover, Sato et al. show, in Figs. 7 and 10B, that the circular saw assembly is tilted toward only one side (with a tilt from the left 45 degrees to 0 degrees (right angle). Therefore, since the positioning of 0 degrees can be performed with high accuracy by urging one end of a hole toward the clamp lever, the problem wherein it is difficult to position the circular saw assembly 8, which can be titled right and left with respect to a 0 degree position as in the invention, to 0 degrees with high accuracy by the clamp lever 5 does not even exist in Sato. On the other hand, according to the invention, the above problem caused only by the circular saw assembly 8 tilted right and left is solved by the stopper pin 113 and hole 122 for setting only a 0-degree tilt angle.

In view of the above remarks, reconsideration and allowance of this application are now believed to be in order, and such action is hereby solicited.

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If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the local exchange number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

By   
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